

SEQUENCE LISTING

<110> University of South Florida
Mohapatra, Shyam S.
Kumar, Mukesh

<120> Genetic Adjuvants for Immunotherapy

<130> USF-182XC1

<140> 10/655,873
<141> 2003-09-05

<150> 60/319,523
<151> 2002-09-05

<160> 12

<170> PatentIn version 3.3

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<223> forward primer for murine IL-12 p40 subunit

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<223> reverse primer for murine IL-12 p40 subunit

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<223> forward primer for plasmid pc40

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cgagaagctg atgttagagag agacacagaaa ggagacagaaa agcaagagac cagagtccc 180
ggaaagtccct gccgcgcctc gggacaatta taaaaatgtg gccccctggg tcagcctccc 240
agccaccgcct ctcacactgcc gcggccacag gtctgcattcc agcggctgc cctgtgtccc 300
tgcagtgcgg gtcagcatg tgtccagcgc gcagcctctt ccttgtggct accctggcc 360

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ccagacaaac	tctagaattt	tacccttgca	cttctgaaga	gattgatcat	gaagatatac	540
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<210> 8

<211> 253

<212> PRT

<213> Homo sapiens

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20															

25

30

Leu	Ser	Met	Cys	Pro	Ala	Arg	Ser	Leu	Leu	Leu	Val	Ala	Thr	Leu	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

35 40 45
Leu Leu Asp His Leu Ser Leu Ala Arg Asn Leu Pro Val Ala Thr Pro
50 55 60

Asp Pro Gly Met Phe Pro Cys Leu His His Ser Gln Asn Leu Leu Arg
65 70 75 80

Ala Val Ser Asn Met Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr
85 90 95

Pro Cys Thr Ser Glu Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys
100 105 110

Thr Ser Thr Val Glu Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu
115 120 125

Ser Cys Leu Asn Ser Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys
130 135 140

Leu Ala Ser Arg Lys Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser
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Ile Tyr Glu Asp Leu Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn
165 170 175

Ala Lys Leu Leu Met Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn
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Met Leu Ala Val Ile Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser
195 200 205

Glu Thr Val Pro Gln Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys
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Thr Lys Ile Lys Leu Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala
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<212> PRT
<213> Homo sapiens

<400> 10

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Val	Glu	Leu	Asp	Trp	Tyr	Pro	Asp	Ala	Pro	Gly	Glu	Met	Val	Val	Leu
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Thr	Cys	Asp	Thr	Pro	Glu	Glu	Asp	Gly	Ile	Thr	Trp	Thr	Leu	Asp	Gln
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Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65 70 75 80

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
85 90 95

Leu Ser His Ser Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
100 105 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
115 120 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
130 135 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145 150 155 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
165 170 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
180 185 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
195 200 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
210 215 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225 230 235 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
245 250 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
260 265 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
275 280 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
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Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Trp Ser
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Glu Trp Ala Ser Val Pro Cys Ser
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<210> 11
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gaaacgatga aatatacaag ttatatcttg gctttcagc tctgcatcgt tttgggtct	180	
cttggctgtt actgccagga cccatatgtt aaagaaggcag aaaaccttaa gaaatatttt	240	
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tggaaagagg agagtgcacag aaaaataatg cagagccaaa ttgtctcctt ttacttcaaa	360	
ctttttaaaa actttaaaga tgaccagagc atccaaaaga gtgtggagac catcaaggaa	420	
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tctaaatcta tttattaata tttaacattha tttatatggg gaatataattt ttagactcat	720	
caatcaaata agtatttata atagcaactt ttgtgtatg aaaatgaata tctattaata	780	
tatgtattat ttataattcc tatatcctgt gactgtctca cttaatcctt tgtttctga	840	
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<400> 12

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 35 40 45

Gly Thr Leu Phe Leu Gly Ile Leu Lys Asn Trp Lys Glu Glu Ser Asp
 50 55 60

Arg Lys Ile Met Gln Ser Gln Ile Val Ser Phe Tyr Phe Lys Leu Phe
 65 70 75 80

Lys Asn Phe Lys Asp Asp Gln Ser Ile Gln Lys Ser Val Glu Thr Ile
 85 90 95

Lys Glu Asp Met Asn Val Lys Phe Phe Asn Ser Asn Lys Lys Arg
 100 105 110

Asp Asp Phe Glu Lys Leu Thr Asn Tyr Ser Val Thr Asp Leu Asn Val
 115 120 125

Gln Arg Lys Ala Ile His Glu Leu Ile Gln Val Met Ala Glu Leu Ser
 130 135 140

Pro Ala Ala Lys Thr Gly Lys Arg Lys Arg Ser Gln Met Leu Phe Arg
 145 150 155 160

Gly Arg Arg Ala Ser Gln

10

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165